UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,326	12/16/2003	Joakim Dahlstedt	BEAS-01299US1	5931

23910 7590 08/15/2005	EXAMINER	
FLIESLER MEYER, LLP	BULLOCK JR, LEWIS ALEXANDER	
FOUR EMBARCADERO CENTER	ART UNIT	PAPER NUMBER
SUITE 400	2195	
SAN FRANCISCO, CA 94111		

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/737,326	DAHLSTEDT ET AL.
	Examiner	Art Unit	
	Lewis A. Bullock, Jr.	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-60_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-60_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _16 December 2003_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____ .
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-60 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 41-60 detail a computer medium including instructions stored thereon which when executed cause the computer to perform steps of allow a second thread to roll forward into a safe state to stop executing. The specification on page 9, lines 4-5 do not limit the cited computer media to non-tangible embodiments, i.e. signals and waves, which are non-statutory. Therefore, the claims are rejected as being related to non-statutory subject matter as detailed in the M.P.E.P. 2106. In addition, the cited claims do not definitive state that the instructions are executed the computer to perform the steps. Therefore, the cited claims are directed to software code that is not tangible and therefore non-statutory as defined in M.P.E.P. 2106. Claims 1-20 detail a system for stopping threads in a safe state having a plurality of threads and a native code interpreter configured to stop executing the thread. The specification on page 7, paragraph 0015 details examples of what the system **may comprise of.** There is no definitive language that the system comprises any hardware or tangible component to perform the steps or execute the software defined in the claims. Therefore, the claims are rejected as not being statutory as defined in M.P.E.P. 2106. Claims 21-40 detail steps that do not require the use of hardware to accomplish the cited step. Each step requires the providing of information, i.e. threads and an

interpreter (software). There is no defined step of using or executing the providing

information thereby requiring the use of hardware. Therefore, claims 21-40 are rejected

as being not tangible embodied and therefore non-statutory.

Drawings

2.   New corrected drawings in compliance with 37 CFR 1.121(d) are required in this

application because the drawings were declared to be informal in the transmittal letter

filed December 16, 2003. Applicant is advised to employ the services of a competent

patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no

longer prepares new drawings. The corrected drawings are required in reply to the

Office action to avoid abandonment of the application. The requirement for corrected

drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3.   Claims 15, 20, 35, 40, 55 and 60 are rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention. Claims 5, 10, 15, 20, 25, 30,

35, 40, 45, 50, 55 and 60 details the interpreter is configured to interpret the machine

code currently at the executing thread and provide **that information** to the system for

use in stopping the executing thread in a safe state. It is not clear as to what

information is provided to the system. Therefore, the claims lack antecedent basis.

Claims 15, 20, 35, 40, 55, and 60, which depend from various independent claims that

detail, a first and second application thread wherein the interpreter is configured to allow

the first thread to step the execution of the second thread. Although it can be inferred

that Applicant is probably alluding to the executing thread as the second thread, the

claims do not definitively illustrate this. It could be determined that both threads are

executing and therefore the first thread could be stopped. Therefore, Applicant is

requested to amend the dependent claims such that the interpreting of the machine

code is at the second thread.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1, 2, 5-7, 10-12, 15-17, 20-22, 25-27, 30-32, 35-37, 40-42, 45-47, 50-52,

55-57 and 60 are rejected under 35 U.S.C. 102(e) as being anticipated by KAWAHARA

(U.S. Patent Application Publication 2002/0161816 A1).

As to claim 21, KAWAHARA teaches a method for stopping threads (threads) in

a safe state in a run-time environment (computer programming environment / Java

environment) (pg. 2, paragraph 0021 - 0022) comprising: providing a plurality of

application threads (threads) (pg. 2, paragraph 0021-0022); and providing a native code

interpreter (interpreter loop) which is configured to stop execution of an executing

thread (thread) such that the thread is stopped in a safe state (the thread terminates in

a clean and forcible manner without leaving any data structures in the system in a

unstable state or in a locked status) (pg. 3, paragraph 0027; page 3, paragraph 0029 –

0030).

    As to claim 26, KAWAHARA teaches a method for moving threads (threads) to a

safe state in a run-time environment (computer programming environment / Java

environment) (pg. 2, paragraph 0021-0022), comprising the steps of: providing a

plurality of application threads (threads) (pg. 2, paragraph 0021-0022); and providing a

native code interpreter (interpreter loop) which is used to allow a first or a stopping

thread (thread) to roll a second or an executing thread (thread) forward such that the

executing thread is stopped in a safe state (the thread terminates in a clean and forcible

manner without leaving any data structures in the system in a unstable state or in a

locked status / if the code is not user program and an exception is not set that the code

is user program then processing returns to the interpreter to execute a Java bytecode)

(pg. 3, paragraph 0027; page 3, paragraph 0029 – 0030).

    As to claim 31, KAWAHARA teaches a method which uses native code

interpretation to move threads to a safe state in a run-time environment (computer

programming environment / Java environment) (pg. 2, paragraph 0021-0022),

comprising the steps of: providing a first and second application threads (threads) (pg.

2, paragraph 0021-0022); and providing a native code interpreter (interpreter loop)

configured to allow the first thread (thread) to stop execution of the second thread

(thread) and roll the second thread forward such that the thread is stopped in a safe

state (the thread terminates in a clean and forcible manner without leaving any data

structures in the system in a unstable state or in a locked status / if the code is not user

program and an exception is not set that the code is user program then processing

returns to the interpreter to execute a Java bytecode) (pg. 3, paragraph 0027; page 3,

paragraph 0029 – 0030).

As to claim 36, KAWAHARA teaches a method which uses native code

interpretation (interpreter loop) to stop thread (thread) in a safe state in a run-time

environment (computer programming environment / Java environment) (pg. 2,

paragraph 0021-0022) comprising the steps of: allowing a first thread (thread) to initially

halt execution of a second thread (thread) (pg. 3, paragraph 0027, "At step 204 the

thread is notified of termination by execution of a modified Thread.stop() command in

accordance with the present invention. This command is typically received from

another thread."); using native code interpretation (interpreter loop) to determine the

current state of the second thread (whether the code is a user program or not); and

allowing the first thread to roll forward the state of the second thread such that the

second thread is stopped (the thread terminates in a clean and forcible manner without

leaving any data structures in the system in a unstable state or in a locked status / if the

code is not user program and an exception is not set that the code is user program then

processing returns to the interpreter to execute a Java bytecode) (pg. 3, paragraph

0027; page 3, paragraph 0029 – 0030).

As to claim 22, KAWAHARA the system includes a virtual machine (JVM) and

wherein the plurality of application threads (threads) executes as part of the virtual

machine (pg. 5, paragraph 0040, "For example, a JVM or bytecode compiler can run on

general purpose computer system.").

As to claim 25, KAWAHARA teaches the native code interpreter (interpreter loop)

is configured to interpret the machine code currently at the executing thread (determine

whether the code is a user program or not), and provide that information to the system

for use in stopping the executing thread in a safe state (the thread terminates in a clean

and forcible manner without leaving any data structures in the system in a unstable

state or in a locked status / if the code is not user program and an exception is not set

that the code is user program then processing returns to the interpreter to execute a

Java bytecode) (pg. 3, paragraph 0027; page 3, paragraph 0029 – 0030).

As to claims 27 and 30, refer to claims 22 and 25 for rejection.

As to claims 32 and 35, refer to claims 22 and 25 for rejection.

As to claims 37 and 40, refer to claims 22 and 25 for rejection.

As to claims 1, 2, 5-7, 10-12, 15-17 and 20, reference is made to a system that corresponds to the method of claims 21, 22, 25-27, 30-32, 35-37 and 40 and is therefore met by the rejection of claims 21, 22, 25-27, 30-32, 35-37 and 40 above.

As to claims 41, 42, 45-47, 50-52, 55-57 and 60, reference is made to a computer readable medium that corresponds to the method of claims 21, 22, 25-27, 30-32, 35-37 and 40 and is therefore met by the rejection of claims 21, 22, 25-27, 30-32, 35-37 and 40 above.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 3, 4, 8, 9, 13, 14, 18, 19, 23, 24, 28, 29, 33, 34, 38, 39, 43, 44, 48, 49, 53, 54, 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over KAWAHARA (U.S. Patent Application Publication 2002/0161816 A1) in view of Applicant's Admitted Prior Art (APA).

As to claim 23, KAWAHARA teaches stopping threads in a run-time environment. However, KAWAHARA does not teach that the system is used for garbage collection. APA teaches the system for stopping threads is used for the garbage collection of

inactive threads in the run-time environment (pg. 2, lines 16-27). Therefore, it would be obvious to one skilled in the art at the time of the invention to combine the teachings KAWAHARA with the teachings of APA in order to stop threads in order to perform garbage collection (pg. 2, specification).

As to claim 24, KAWAHARA teaches stopping threads in a run-time environment. However, KAWAHARA does not teach that the system is used for context switching. APA teaches the system for stopping threads is used to perform context switching between the threads in the run-time environment (pg. 3, lines 1-13). Therefore, it would be obvious to one skilled in the art at the time of the invention to combine the teachings KAWAHARA with the teachings of APA in order to stop threads in order to perform context switching (pg. 3, specification).

As to claims 28 and 29, refer to claims 23 and 24 for rejection.

As to claims 33 and 34, refer to claims 23 and 24 for rejection.

As to claims 38 and 39, refer to claims 23 and 24 for rejection.

As to claims 3, 4, 8, 9, 13, 14, 18 and 19, reference is made to a system that corresponds to the method of claims 23, 24, 28, 29, 33, 34, 38 and 39 and is therefore met by the rejection of claims 23, 24, 28, 29, 33, 34, 38 and 39 above.

As to claims 43, 44, 48, 49, 53, 54, 58 and 59, reference is made to a computer readable medium that corresponds to the method of claims 23, 24, 28, 29, 33, 34, 38 and 39 and is therefore met by the rejection of claims 23, 24, 28, 29, 33, 34, 38 and 39 above.
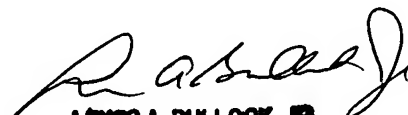
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER

August 9, 2005